Public Involvement/Participation

Regulatory Text

You must, at a minimum, comply with state, tribal, and local public notice requirements when implementing a public involvement/participation program.

Guidance

EPA recommends that the public be included in developing, implementing, and reviewing your storm water management program, and that the public participation process should make efforts to reach out and engage all economic and ethnic groups. Opportunities for members of the public to participate in program development and implementation include serving as citizen representatives on a local storm water management panel, attending public hearings, working as citizen volunteers to educate other individuals about the program, assisting in program coordination with other pre-existing programs, or participating in volunteer monitoring efforts. (Citizens should obtain approval where necessary for lawful access to monitoring sites.)

BMP Fact Sheets

Activities/public participation

Storm drain stenciling

Stream cleanup and monitoring

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Storm Drain Stenciling

Public Involvement/Participation

Description

Storm drains can be labeled with stencils to discourage dumping

Storm drain stenciling involves labeling storm drain inlets with painted messages warning citizens not to dump pollutants into the drains. The stenciled messages are generally a simple phrase to remind passersby that the storm drains connect to local waterbodies and that dumping pollutes those waters. Some specify which waterbody the inlet drains to or name the particular river, lake, or bay. Commonly stenciled messages include: "No Dumping. Drains to Water Source," "Drains to River," and "You Dump it, You Drink it. No Waste Here." Pictures can also be used to convey the message, including a shrimp, common game fish, or a graphic depiction of the path from drain to waterbody. Communities with a large Spanish-speaking population might wish to develop stencils in both English and Spanish, or use a graphic alone.

Applicability

Municipalities can undertake stenciling projects throughout the entire community, especially in areas with sensitive waters or where trash, nutrients, or biological oxygen demand have been identified as high priority pollutants. However, regardless of the condition of the waterbody, the signs raise awareness about the connection between storm drains and receiving waters and they help deter littering, nutrient overenrichment, and other practices that contribute to nonpoint source pollution. Municipalities should identify a subset of drains to stencil because there might be hundreds of inlets; stenciling all of them would be prohibitively expensive and might actually diminish the effect of the message on the public. The drains should be carefully selected to send the message to the maximum number of citizens (for example, in areas of high pedestrian traffic) and to target drains leading to waterbodies where illegal dumping has been identified as a source of pollution.

Implementation

Municipalities can implement storm drain stenciling programs in two ways. In some cases, cities and towns use their own public works staff to do the labeling. Some municipalities feel that having their own crews do the work produces better results and eliminates liability and safety concerns. More commonly, stenciling projects are conducted by volunteer groups in cooperation

with a municipality. In such an arrangement, volunteer groups provide the labor and the municipality provides supplies, safety equipment, and a map and/or directions to the drains to be stenciled. The benefits of using volunteers are lower cost and increased public awareness of storm water pollutants and their path to waterbodies. A municipality can establish a program to comprehensively address storm drain stenciling and actively recruit volunteer groups to help, or the municipality can facilitate volunteer groups that take the initiative to undertake a stenciling project.

Whether the municipality or a volunteer group initiates a stenciling project, the municipality should designate a person in charge of the storm drain stenciling program. Many municipalities will designate a person from the pubic works or water quality department to coordinate stenciling projects by volunteer groups. Because these programs depend heavily on volunteer labor, organizers and coordinators should be skilled in recruiting, training, managing, and recognizing volunteers. Coordination activities include providing

- Stenciling kits containing all materials and tools needed to carry out a stenciling project
- A map of the storm drains to be stenciled
- Training for volunteers on safety procedures and on the technique for using stencils or affixing signs
- Safety equipment (traffic cones, safety vests, masks and/or goggles for spray paint, and gloves if glue is used)
- Incentives and rewards for volunteers (badges, T-shirts, certificates).

The coordinator might also wish to provide pollutant-tracking forms to collect data on serious instances of dumping. Participants in storm drain stenciling projects can be asked to note storm drains that are clogged with debris or show obvious signs of dumping. This enables city crews to target cleanup efforts. Volunteers should be instructed on what kinds of pollutants to look for and how to fill out data cards. Volunteers also should record the locations of all storm drains labeled during the project, so the city can keep track. Additionally, the participants should convene after the event to talk about what they have found. Their reactions and impressions can help organizers improve future stenciling projects.

If a municipality chooses to initiate a storm drain stenciling program and solicit the help of volunteer organizations, they can advertise through a variety of channels. Outreach strategies include

- Distributing pamphlets and brochures to area service organizations
- Placing articles in local magazines
- Taking out newspaper ads
- Placing an environmental insert in the local newspaper
- Making presentations at community meetings
- Developing public service announcements for radio
- Creating a web site with background and contact information as well as photos and stories from past stenciling events (the references section contains a list of storm drain stenciling web sites from communities across the country)
- Using word-of-mouth communications about the program.

Newspapers can be notified to get advance coverage of a planned stenciling event. Newspapers might choose to cover the event itself as an environmental feature story to further public awareness. A news release issued for the day of the event can draw TV and/or newspaper coverage. Public service announcements made before the event also will help to reinforce the message. Additionally, some municipalities can have volunteers distribute door hangers in the targeted neighborhoods to notify residents that storm drain stenciling is taking place. The hangers explain the purpose of the project and offer tips on how citizens can reduce urban runoff in general.

For any volunteer project to be successful, volunteers must feel they have done something worthwhile. Communities active in storm drain stenciling have developed a variety of ways to recognize volunteers, including

- Providing each participant with a certificate of appreciation and/or letter of thanks signed by the mayor
- Distributing logo items such as T-shirts, hats, badges, plastic water bottles, or other items to participants before or after the event
- Holding a picnic or small party after the event with refreshments donated by a local business
- Providing coupons for free pizza, hamburgers, ice cream, or movies donated by local merchants
- Taking pictures of stenciling teams before, during, and after the event to create a pictorial record of volunteers' activity.

Since stenciling projects take place on city streets, volunteer safety is of utmost importance. The city might wish to designate lower-traffic residential areas as targets for volunteer stenciling and provide safety equipment and training. Most programs require that stenciling be done in teams, with at least one person designated to watch for traffic. Adult supervision is needed when volunteers are school children or members of youth groups. Most cities also require participating volunteers (or their parents) to sign a waiver of liability. An attorney for the municipality should be consulted to determine what liability exists and how to handle this issue.

Materials

Most communities use stencils and paint to label their storm drains. Some communities stencil directly onto the curb, street, or sidewalk, while others first paint a white background and then stencil over it. The most commonly used stencils are made of Mylar, a flexible plastic material that can be cleaned and reused many times. However, stencils can also be made from cardboard, aluminum, or other material. The reference section lists web sites where stencils can be purchased.

Storm drain messages can be placed flat against the sidewalk surface just above the storm drain inlet, while others are placed on the curb facing the street or on the street itself, either just upstream of the storm drain or on the street in front of the drain. However, messages placed on the street might wear out sooner.

Paint or ink can be sprayed on or applied by brush and roller. Spray paint is quickest and probably the easiest to apply neatly. Regions that do not meet federal air-quality standards should avoid using spray paints, since many contain air-polluting propellants. It is recommended to use "environmentally friendly" paint that contains no heavy metals and is low in volatile organic compounds.

Alternatives to painted messages include permanent signs made of aluminum, ceramic, plastic, or other durable materials. These signs last longer than stenciled messages and need only glue to affix them to storm drain inlets. They might also be neater and easier to read from a distance. Tiles or plaques can be dislodged by pedestrian traffic if they are disturbed before the glue dries.

Benefits

Storm drain stenciling projects offer an excellent opportunity to educate the public about the link between the storm drain system and drinking water quality. In addition to the labeled storm drains, media coverage of the program or stenciling event can increase public awareness of storm water issues. Volunteer groups can provide additional benefits by picking up trash near the stenciled storm drains and by noting where maintenance is needed. Additionally, stenciling projects can provide a lead-in to volunteer monitoring projects and increase community participation in a variety of other storm water-related activities.

Limitations

A storm drain stenciling program is generally effective, inexpensive, and easy to implement. However, larger communities can have many storm drain inlets, so volunteer coordinators need to be skilled at recruiting and organizing the efforts of volunteers to provide adequate coverage over large areas. Safety considerations might also limit stenciling programs in areas where traffic congestion is high. Other environmental considerations such as the use of propellants in spray paint in areas that do not meet air quality standards should be taken into account. Finally, stencils will require repainting after years of weather and traffic, and tiles and permanent signs might need replacement if they are improperly installed or subject to vandalism.

Effectiveness

By raising public awareness of urban runoff, storm drain stenciling programs should discourage practices that generate nonpoint source pollutants. As with any public education project, however, it is difficult to precisely measure the effect that storm drain stenciling programs have on human behavior. Nor is it easy to measure reductions in certain components of urban runoff, which by definition is diffuse in origin.

Some municipalities attempt to assess the effectiveness of storm drain stenciling programs by periodically examining water samples from targeted storm drain outfalls (places where storm drains empty into a waterbody). If the storm drains leading to a particular outfall have been labeled, and if the levels of pollutants from that outfall decline after the stencils were put in place, one can assume the labeling has had some deterrent effect. This monitoring can be conducted by the same volunteer groups that stenciled the drains and can be incorporated into existing volunteer monitoring programs or can initiate the development of a new program.

Cities also infer stenciling program success from increases in the volume of used motor oil delivered to used-oil recycling centers. Others measure success in terms of how many drains are stenciled and the number of requests received by volunteer groups to participate in the program. They can also take into consideration the number of cleanups conducted by the city as a result of reports made by volunteers.

Costs

Mylar stencils cost about 45 cents per linear inch and can be used for 25 to 500 stencilings, depending on whether paint is sprayed or applied with a brush or roller. Permanent signs are generally more costly: ceramic tiles cost $5 to $6 each and metal stencils can cost $100 or more.

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Stream Cleanup and Monitoring
Public Involvement/Participation

Description

People can become involved in pollution prevention by volunteering to clean up streams (Source: Water Action Volunteers, 1998)

An effective way to promote storm water awareness is to host a stream cleanup. Many people are unaware that most storm drains discharge untreated waters directly into local waterbodies. A stream cleanup allows concerned citizens to become directly involved in water pollution prevention. Participants volunteer to walk (or paddle) the length of the stream or river, collecting trash and recording information about the quantity and types of garbage that has been removed. Stream cleanups also educate members of the community about the importance of stream water quality through media coverage and publicity efforts. Many programs have experts on hand at the event to discuss the stream's ecology and history. As a result, the river is cleaner, volunteers feel a sense of accomplishment, and the community at large is better informed.

Applicability

Stream cleanups are applicable to all waterbodies. Almost anyone can get involved in cleanup activities: schoolchildren, youth groups, neighborhood associations, local environmental groups, and individuals. Cleanups have tasks of varying levels of difficulty, so there is something for people of all ages and skills to do.

Implementation

Municipalities should consider designating an individual or groups of individuals to schedule and organize the cleanup projects, recruit volunteers, coordinate trash disposal with the local solid waste authority, and assign staff for supervision of the projects. Projects should be scheduled several months in advance to provide adequate time to organize volunteers and handle logistical issues. Permission to conduct cleanup projects on private property should be secured in advance.

The first step for a municipally sponsored stream cleanup program is to identify cleanup sites. Data from monitoring activities, including volunteer monitoring, can identify particular stream reaches that are heavily impacted by trash, especially streams near commercial and residential areas that experience high vehicular and pedestrian traffic.

Stream reaches can be prioritized based on the goals of the watershed program. Some communities might target high-visibility or easily accessible areas for maximum convenience and exposure, while others might target the most ecologically sensitive reaches for cleanup efforts.

Once candidate stream reaches have been identified, municipalities should determine the level of effort needed for each project with respect to the size and experience of the group and equipment and supervision needs. A survey should be conducted to identify particular spots where the cleanup effort should concentrate and especially dangerous spots that volunteers should avoid.

Another task for the municipal stream cleanup coordinator is to advertise the program and let service groups know about cleanup project opportunities. Ads can be placed in newsletters, newspapers, and utility bill inserts or posted on the municipal web site. Also, public service announcements can be distributed to radio and television stations. The coordinator can solicit known service groups, environmental organizations, schools, and other groups likely to participate.

Once volunteers are signed up for an event, information should be distributed to them, including meeting times, recommendations for clothing and footwear, inclement weather contingencies, and any other pertinent information. The Arlingtonians for a Clean Environment posted this information for their cleanup activities in the form of frequently asked questions at their web site (*www.capaccess.org/nnp/arclen/streamtips.htm*).

When volunteers are being used for cleanup efforts, municipalities must address the issue of liability. An attorney should be consulted to determine how liability should be handled and draft a waiver for volunteers to sign before participating. Volunteer safety should be maximized by providing safety vests and an adequate number of staff members for supervision based on the type of volunteers used (i.e., many more staff would be needed to assist a school group compared to a group of adults). Volunteers should be provided with, or be encouraged to bring, durable gloves and to wear shoes with adequate tread. First aid kits should be kept nearby during the cleanup project. If cleanups are located along a roadside, the area should be clearly marked with signs, flags, and cones to alert passing motorists.

The municipality should identify a disposal site for the collected garbage. The local solid waste authority can pick up the bagged garbage at the cleanup site or it can be taken to the disposal facility by volunteers or municipal employees. Recyclable materials should be separated from trash and taken to a local recycling center.

When the cleanup effort is complete, volunteers should be recognized for their work. Participation certificates, T-shirts, cups, and other promotional items are always appreciated awards. Also, lunch can be provided through donations from local businesses.

Effectiveness

Stream cleanup events are an effective way to improve habitat, water quality, and aesthetics. To maintain water quality, cleanup efforts must be recurring; a one-time-only cleanup event might raise awareness in the community, but it will not keep trash out of the river. Seasonal or annual cleanup events will help make sure that trash and debris are kept out of the river as much as possible. Volunteer groups can be encouraged to establish Adopt-A-Stream programs to provide for repeated cleanups at a particular site or set of sites.

Cleanup events are also effective at increasing public awareness of pollutant sources and fates, especially when knowledgeable municipal staff are on hand to answer questions, describe the Additionally, all of the information collected at the cleanup sites, including how much of each type of trash was found, can be compiled and presented to the public to inform them about the significance of stream cleanup activities.

A stream cleanup program's effectiveness can be expanded if volunteers report problems such as clogged outfalls, debris too large for volunteers to move, areas of excessive streambank erosion, and signs of illegal dumping. This information will help a municipality to better target their maintenance efforts.

Benefits

Cleanup efforts benefit both the waterbody and the community. These efforts help citizens feel more involved in their community and foster a sense of responsibility for the water resources in their community. In addition, the cleanup efforts improve aesthetics, habitat, and water quality. In addition to trash and debris removal, media coverage of the program or cleanup event can increase public awareness of storm water issues. Volunteer groups can provide additional benefits by taking note of areas where maintenance is needed. Additionally, cleanups can provide a lead-in to volunteer monitoring projects and increase community participation in a variety of other storm water-related activities.

Limitations

Organization at the municipal level is a limitation to cleanup efforts. Some municipalities do not have the resources to designate staff to oversee a cleanup program and to supervise cleanup activities. Municipalities constrained by financial and staffing considerations can seek partnerships with other community and environmental groups to develop a program that relieves the municipality of the burden of organization while providing the volunteer groups with the authority to access both public and private (with permission) lands and equipment for trash collection and hauling.

Other limitations to an effective cleanup program are volunteer interest and commitment. In some cases municipalities must actively solicit community and environmental groups to participate in cleanup projects. The municipal staff in charge of organizing these events should be skilled in volunteer recruiting as well as in advertising the event to maximize participation and exposure via the media.

Cost

Stream and river cleanup activities are typically inexpensive since volunteer labor is used. The supplies required for these efforts—durable gloves, garbage bags, and clipboards for recording information—are generally easy to find, are not costly, and may be donated by local businesses, further reducing costs. Collection of the garbage may require some additional expense, but municipal equipment can be used to facilitate transport of the trash.

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Volunteer Monitoring
Public Involvement/Participation

Description


A group of volunteers monitors a stream to obtain water quality information

Volunteer monitoring programs encourage citizens to learn about their water resources. These volunteer monitors

- Build awareness of pollution problems
- Become trained in pollution prevention
- Help clean up problem sites
- Provide data for waters that might otherwise be unassessed
- Increase the amount of water quality information available to decision makers at all levels of government.

The volunteers often become educators themselves, informing inquisitive passersby, family, colleagues, and friends about storm water.

Volunteers conduct a variety of activities, including

- Analyzing water samples for dissolved oxygen, nutrients, pH, temperature, and many other water constituents
- Evaluating the health of stream habitats and aquatic biological communities
- Inventorying streamside conditions and land uses that may affect water quality
- Cataloging and collecting beach debris
- Restoring degraded habitats.

Citizen monitoring can provide important data and information during the development of a storm water program. These data help determine what management practices and strategies are most appropriate for a particular community or set of issues. State and local agencies can use volunteer data to delineate and characterize watersheds, screen for water quality problems, evaluate the success of best management practices, and measure baseline conditions and trends.

Applicability

Volunteer monitoring programs can be implemented in any community to augment agency-obtained data. Volunteer monitoring programs are organized and supported in many different ways. Projects might be entirely independent (initiated by volunteer groups) or associated with local, state, interstate, or federal agencies. Programs might also be associated with environmental organizations or with schools and universities. Financial support for these programs might come from government grants, partnerships with businesses, endowments, independent fund-raising efforts, corporate donations, membership dues, or a combination of these sources.

Implementation

In general, volunteer monitoring programs work cooperatively with state and local agencies in developing and coordinating technical components. Whenever data are collected for use by state and local agencies, a quality assurance project plan is often developed to provide guidance for volunteer training, sample collection and analysis, and information recording and dissemination. Volunteer groups whose primary goal is education usually implement straightforward assessment methods and do not focus on quality assurance plans.

Benefits

Volunteer programs promote the stewardship of local waters. By educating volunteers and the community about the value of local waters, the kinds of pollution threatening them, and how individual and collective actions can help solve specific problems, volunteer monitoring programs

- Establish a connection between watershed health and the citizens' individual and collective behaviors
- Build bridges among various agencies, businesses, and organizations
- Create a constituency for local waters that promotes personal and community stewardship and cooperation.

Establishing a Volunteer Monitoring Program. If a volunteer monitoring program is not available, a new program can be started. Starting a volunteer monitoring program is not a simple task. Things that will be needed are

- Money for equipment and possibly for staff
- Appropriate meeting, training, and lab facilities
- A network of knowledgeable people (such as educators, extension agents, and local government representatives) who are interested in the project and willing to advise and assist with the efforts
- Connection to or sponsorship by potential data users who can help plan the project to meet their needs as well as those of the new program's
- Organizational skills to manage and maintain the project.

Most of all, time will be needed to make contacts in the community, design a monitoring plan, develop training sessions, recruit volunteers, revise the program as it matures, raise funds, analyze the data, and report back to the volunteers and the community.

Following are some of the lessons learned by other volunteer programs:

- *Start small.* A pilot project that serves to test methods, training sessions, and organizational skills can keep volunteers from being overwhelmed and allows them to evaluate and refine the project before moving on to more ambitious efforts.

- *Keep goals realistic.* Most volunteer data are used to educate the community and to screen for potential problems. Although it is important to strive for data quality, it is also important to realize that for most projects a high degree of data quality assurance is not necessary.

- *Planning pays off.* Few things are more frustrating than collecting a year's worth of data and then finding that the volunteers have no idea how to analyze them, that the methods used are not considered valid, or that sites were sampled in the wrong locations.

- *Make connections.* The more people in the community and within local and state agencies who are aware of the program, the more friends and supporters the program could have. Potential data users should be included in all phases of the project's development.

- *Develop volunteer leadership.* Volunteer leaders within a project provide the vision for setting goals and the commitment to achieve them. They also enable a project to develop and grow without stagnating. Plenty of opportunities for volunteers to develop as leaders should be built into the program.

- *Pamper volunteers.* Volunteers give up their free time to come to meetings, attend training sessions, and trudge out to monitoring sites. Social opportunities should be provided, and volunteers should be rewarded for a job well done.

- *Use the data.* Findings can be reported to volunteers and to the community. Volunteers can present monitoring results at fairs and town meetings or can send findings to appropriate contacts in state and local government. Also, a newsletter or data report can be created to inform the public about what has been accomplished. Volunteers should coordinate with state and local officials to transfer data and analyses. Volunteer groups can present findings at town meetings and prepare reports or brochures to distribute to interested citizens.

Effectiveness

There are two major hurdles to having an effective volunteer monitoring program: recruitment and quality assurance. Advertising volunteer opportunities and facilitating volunteer groups are key to a successful program. Quality assurance can be achieved by providing volunteers with extensive and detailed guidance as well as supervision to produce data of sufficient quality to use in watershed analyses.

Limitations

Volunteer monitoring programs have several limitations. First, getting volunteers to commit is one of the major limitations to any volunteer effort. Initial limitations are obtaining equipment, finding a site or sites, and getting people to volunteer their time, effort, and expertise. Second, because volunteers have no formal water quality sampling training, the quality of the data is questionable even if a quality assurance program plan(QAPP) is followed. There is no guarantee that rigorous sampling protocols will be followed to the letter, especially when sterile procedures are required. Additionally, some data gathering, such as benthic macroinvertebrate sampling and identification, requires a good deal of skill. Extensive training and supervision can help allay these data quality issues, but this can be expensive. However, depending on how the data are used, strict procedures may not be necessary. For example, volunteer monitoring data can be used to target agency sampling by identifying sites with probable water quality problems.

Cost

Volunteer monitoring programs are funded through a variety of sources. In some cases, state and local water quality or natural resource agencies sponsor the volunteers and contribute staff, equipment, and services such as data analysis. Some programs receive funding from federal agencies such as the EPA, the National Park Service, and the U.S. Forest Service.

In addition, many volunteer programs receive private support through foundations, universities and other research centers, or corporate sponsors. This support may include funding for a full- or part-time organizer, equipment, training workshops, or data analysis. Some agencies or organizations also offer support by allowing volunteer monitoring programs to use their facilities and equipment. In many programs, volunteers themselves also help pay for monitoring by purchasing their own equipment and hosting training sessions.

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